

# Montana Board of Oil and Gas Conservation Environmental Assessment

**Proposed Action:** Approve Drilling Permit (Form 22)

**Operator:** Denbury Onshore, LLC

**Well Name/Number:** Pine Unit 13X-15A

**Location:** NW SW Section 15 T11N R57E

**County:** Wibaux, **MT;** **Field (or Wildcat)** Pine

## Air Quality

(possible concerns)

Long drilling time: No, 30-35 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple drilling rig for 9,400' TD, vertical development well. Red River Formation at total depth with objective formations Interlake, Stony Mountain and Red River, which are field producing formations.

Possible H<sub>2</sub>S gas production: Yes, possible H<sub>2</sub>S gas.

In/near Class I air quality area: No Class I air quality area in area of review.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: No special concerns – using triple derrick drilling rig to drill a 9,400' TD, vertical development well, If existing pipeline for gas in the area, gas can be gathered or if no gathering system nearby, gas can be flared under Board Rule 36.22.1220.

## Water Quality

(possible concerns)

Salt/oil based mud: Use freshwater and freshwater mud system on surface hole and main hole will utilize oil based invert mud to TD.

High water table: No, high water table anticipated at this location.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Cabin Creek, about 3/10 of a mile to the west from this location. Two stock ponds exist 2/5 of a mile to the northeast and east.

Water well contamination: None, closest water well is a shallow stock water well about 1.1 miles to the southwest and 1.2 miles to the southeast from this location. Surface casing will be set below all known water wells in the area.

Surface hole will be drilled with freshwater and freshwater muds. Surface casing will be set to 1850' and cemented back to surface.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No Class I stream drainages in the area of review.

Mitigation:

- ☒ Lined reserve pit
- ☒ Adequate surface casing
- ☐ Berms/dykes, re-routed drainage
- ☐ Closed mud system
- ☐ Off-site disposal of solids/liquids (in approved facility)
- ☐ Other: \_\_\_\_\_

Comments: 1850' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole. Reserve pit liquids to be recycled or hauled to a commercial disposal. Solids will be left on site in the lined reserve pit after being allowed to dry, pit liner folded over the top of the solids, minimum of 4' of spoil dirt to fill pit over the top of the cuttings.

### Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None.

High erosion potential: No high erosion potential, moderate cut, up to 17.2' and moderate fill, up to 15.1', required.

Loss of soil productivity : None, location to be restored after drilling well, if well is nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: Large, 300'X400' location size required.

Damage to improvements: Slight, surface use is grassland with scrub pines, used for grazing.

Conflict with existing land use/values: Slight

Mitigation

- ☐ Avoid improvements (topographic tolerance)
- ☐ Exception location requested
- ☒ Stockpile topsoil
- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation
- ☐ Other \_\_\_\_\_

Comments: All of the access will be over existing county roads and existing lease roads. About 90' of new road will be constructed into this location. No special concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Oil field buildings and facilities are the only structures nearby. No residences nearby. Either way the drilling of this well should not pose any problems.

Possibility of H<sub>2</sub>S: Yes H<sub>2</sub>S possible.

Size of rig/length of drilling time: Triple drilling rig 30 to 35 days drilling time

Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other: \_\_\_\_\_

Comments: No special concerns. Proper BOP stack (5000 psig annular with double blind rams and pipe rams) and surface casing should be able to control any problems that occur.

### **Wildlife/recreation**

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None, identified

Proximity to recreation sites: None identified

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern and Whooping Crane. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. MTFWP Natural Heritage Tracker website lists four (4) species of concern. They are the Golden Eagle, Greater Sage Grouse, Black-billed Cuckoo and the Red-headed woodpecker. NH Tracker website lists three (3) Potential Species of Concern: Brassy Minnow, Plains Minnow, Eastern-Screech Owl, and Creek Chub.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: \_\_\_\_\_

Comments: The surface ownership is private land. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Historical/Cultural/Paleontological**

(possible concerns)

Proximity to known sites None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: \_\_\_\_\_

Comments: On private surface land. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desire to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Social/Economic**

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns, an oil well test within the Pine Oil Field.

### **Remarks or Special Concerns for this site**

Well is a 9,400' TD, vertical development well, Red River/SM/Interlake Formation well test in the Pine oil field. This well will be converted to an injector to provide pressure support to the 24X-15A in 2015.

### **Summary: Evaluation of Impacts and Cumulative effects**

No long term impacts expected. Some short term impacts will occur.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/John Gizicki  
(title:) Compliance Specialist  
Date: March 11, 2014

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)  
Wibaux County water wells  
(subject discussed)  
March 11, 2014  
(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Wibaux County

(subject discussed)

March 11, 2014

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, S4 T11N R57E

(subject discussed)

March 11, 2014

(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_